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PATENT, TRADEMARK, COPYRIGHT
AND UNFAIR COMPETITION LAW
AND RELATED LITIGATION

EDMUND P. WOOD   1923-1968
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EDWARD B. EVANS   1938-1971

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June 3, 2004

FACSIMILE COVER SHEET

To: Examiner Thu Ha T. Nguyen
Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22213-1450

Fax: 703-872-9306
Enclosures:
    Fax Cover Sheet containing Certificate of
      Facsimile Transmission (1 page)
    Transmittal containing Certificate of
      Facsimile Transmission (2 pages)
    Amendment After Final (12 pages)

From: Scott A. Stinebruner
Reg. No. 38,323

Re: U.S. Patent Application
Serial No.   09/697,398
Filed: October 27, 2000
Applicant: Robert Miller et al.
Art Unit: 2155
Confirmation No.:   2827
Our Ref: IBM/164

Pages: 15 (including cover sheet)

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MESSAGE/COMMENTS
OFFICIAL

CERTIFICATE OF FACSIMILE TRANSMISSION
I hereby certify that this correspondence and the enclosures noted herein (15 total pages) are being transmitted via facsimile transmission to Examiner Thu Ha T. Nguyen, Mail Stop AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 at 703-872-9306 on June 3, 2004.

_____   _____
      Judith L. Volk   Date   June 3, 2004

PATENT
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Judith L. Volk   _June 3, 2004_
Judith L. Volk   Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Robert Miller et al.	Art Unit:	2155
Serial No.:	09/697,398	Examiner:	Thu Ha T. Nguyen
Filed :	October 27, 2000		
For :	GROUP DATA SHARING DURING MEMBERSHIP CHANGE IN CLUSTERED COMPUTER SYSTEM		

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT TRANSMITTAL

1. ☒ **Transmitted herewith is an Amendment After Final.**

2. ☐ Small Entity status of this application under 37 CFR 1.9 and 1.27 has been established by a verified statement previously submitted.

    ☐ Enclosed is a verified statement to establish Small Entity status

    ☒ **Other than a Small Entity**

3. **The fee has been calculated as shown below:**

CALCULATION OF FEES

Fee:	Number of Claims After Amendment:		Previously Paid For:	No. Extra:	At Rate:	Amount:
Total Claims	22	minus	24	0	$18	$0.00
Independent Claims	8	minus	9	0	$86	$0.00
MULTIPLE DEPENDENT CLAIM FEE					$290	$0.00
TOTAL FEE FOR CLAIMS:						$0.00

☒   **No additional fee for claims is required.**

Page 1 of 2
Serial No. 09/697,398
Transmittal for Amendment After Final of June 3, 2004
IBM Docket ROC920000129US1
WH&E IBM/164

4.   ☐   Attached is a check in the sum of $_____ for additional claims.

       ☐   Please charge my Deposit Account No. 23-3000 in the amount of $_____.

5.   **The proceedings herein are for a patent application and the provisions of 37 CFR 1.136 apply. Complete (a) or (b) as applicable.**

   ☐   (a)   Applicant petitions for an extension of time under 37 CFR 1.136 for the total number of months checked below:

	Ext. Mos.	Large entity	Small entity
☐	one month	$ 110.00	$ 55.00
☐	two months	$ 420.00	$ 210.00
☐	three months	$ 950.00	$ 475.00
☐	four months	$1,480.00	$ 740.00
☐	five months	$2,010.00	$1,005.00

Extension fee due with this request: $_____

Method of Payment: Check enclosed in the amount of $_____

If an additional extension of time is required, please consider this a petition therefor.

(Check and complete the next item, if applicable)

   ☐   An extension for ____ months has already been secured and the fee paid thereof of $____ is deducted from the total fee due for the total months of extension now requested. Extension fee due with this request $____.
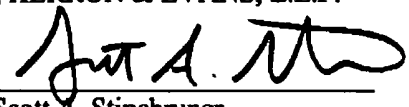
OR

   ☒   (b)   **Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.**

6.   ☒   **If any additional fee for claims or extension of time is required, charge Account No. 23-3000.**

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.

By: _____

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Page 2 of 2
Serial No. 09/697,398
Transmittal for Amendment After Final of June 3, 2004
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PAGE 3/15 * RCVD AT 6/3/2004 3:47:03 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID:513 241 6234 * DURATION (mm-ss):05-20

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PATENT   OFFICIAL **JUN 0 3 2004**   IBM/164
                                                    Confirmation No. __2827__

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Robert Miller et al.   Art Unit: 2155
Serial No.: 09/697,398   Examiner: Thu Ha T. Nguyen
Filed: October 27, 2000   Atty. Docket No.: IBM/164
For: GROUP DATA SHARING DURING MEMBERSHIP CHANGE IN
            CLUSTERED COMPUTER SYSTEM

AMENDMENT AFTER FINAL

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450   *please enter !*
Alexandria, VA 22313-1450

Sir:

In reply to the final Office Action dated May 7, 2004, please amend the above-
identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on
page 2 of this paper.

Remarks begin on page 11 of this paper.

Page 1 of 12
Serial No. 09/697,398
Amendment After Final dated June 3, 2004
Reply to Office Action of May 7, 2004
IBM Docket ROC920000129US1
WH&E IBM/164
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Listing of Claims:

1. (Currently Amended) A method of processing a request in a clustered computer system to organize a plurality of members into a group, the method comprising, in a local member from the plurality of members:

      (a) locally determining within the local member whether the local member is a subgroup leader for a subgroup with which the local member is associated; ~~and~~

      (b) if so, transmitting group data on behalf of the subgroup; and

      (c) detecting in the local member whether the group data for the subgroup has already been transmitted by a previous subgroup leader, wherein transmitting the group data by the local member is performed only if the group data has not already been transmitted.

2. (Canceled)

3. (Currently Amended) The method of claim 1. ~~A method of processing a request in a clustered computer system to organize a plurality of members into a group, the method comprising, in a local member from the plurality of members:~~

~~locally determining within the local member whether the local member is a subgroup leader for a subgroup with which the local member is associated;~~

~~if so, transmitting group data on behalf of the subgroup; and~~

~~detecting in the local member whether the group data for the subgroup has already been transmitted by a previous subgroup leader, wherein transmitting the group data by the local member is performed only if the group data has not already been transmitted; and~~ wherein detecting whether the group data for the subgroup has already been transmitted by a previous subgroup leader includes

accessing a local indicator that indicates whether the group data for the subgroup has already been transmitted, the method further comprising, in the local member:

clearing the local indicator in response to receipt of the request; and

setting the local indicator in response to receipt of group data for the subgroup by the local member.

4. (Original) The method of claim 1, further comprising, in the local member:

(a) sending an acknowledgment message during an acknowledgment round;

(b) waiting for receipt of an acknowledgment message from each of the plurality of members; and

(c) processing the group data after receipt of acknowledgment messages from each of the plurality of members.

5. (Currently Amended) ~~The method of claim 4, further comprising, in the local member~~: A method of processing a request in a clustered computer system to organize a plurality of members into a group, the method comprising, in a local member from the plurality of members:

locally determining within the local member whether the local member is a subgroup leader for a subgroup with which the local member is associated;

if so, transmitting group data on behalf of the subgroup;

sending an acknowledgment message during an acknowledgment round;

waiting for receipt of an acknowledgment message from each of the plurality of members;

processing the group data after receipt of acknowledgment messages from each of the plurality of members;

(a) receiving a message identifying a failed member among the plurality of members; and

(b) in response to receiving the message identifying the failed member, identifying the failed member, locally determining whether the local member is the subgroup leader for the subgroup subsequent to the failure of the failed member, and transmitting group data on behalf of the subgroup using the local member if the group data for the subgroup has not yet been transmitted.

6. (Original) The method of claim 5, wherein receiving the message identifying the failed member includes receiving a membership change message that is automatically generated responsive to failure of the failed member.

7. (Original) The method of claim 4, wherein sending the acknowledgment message is performed subsequent to the local member transmitting the group data on behalf of the subgroup if the local member is determined to be the subgroup leader, the method further comprising bypassing the transmitting of the group data by the local member if the local member is determined not to be the subgroup leader.

8. (Original) The method of claim 1, wherein locally determining within the local member whether the local member is the subgroup leader includes comparing a unique characteristic of the local member with those of the other members associated with the subgroup.

9. (Original) The method of claim 8, wherein the unique characteristic of the local member includes a member name, and wherein locally determining whether the local member is the subgroup leader includes determining whether the local member is the lowest named member among the members associated with the subgroup.

10. (Original) The method of claim 1, wherein the request comprises a join request, wherein the plurality of members is partitioned into first and second subgroups, the first group associated with existing members of the group, and the second subgroup associated with new members to be added to the group responsive to the join request.

11. (Original) The method of claim 1, wherein the request comprises a merge request, wherein the plurality of members is partitioned into a plurality of subgroups, each subgroup associated with a partition, and each partition associated with a subset of the plurality of the members.

12. (Currently Amended) A method of processing a request in a clustered computer system to organize a plurality of members into a group, the plurality of members partitioned into a plurality of subgroups, the method comprising:

(a) transmitting group data on behalf of each subgroup; and

(b) locally tracking within each member whether the group data for the subgroup associated with such member has been transmitted;

locally determining within each member whether the member is a subgroup leader for the subgroup with which the member is associated; and

if the member is a subgroup leader and the group data for the subgroup associated with the member has not been transmitted, transmitting with the member the group data on behalf of the subgroup.

13. (Canceled).

14. (Currently Amended) The method of claim 12, A method of processing a request in a clustered computer system to organize a plurality of members into a group, the plurality of members partitioned into a plurality of subgroups, the method comprising:

~~transmitting group data on behalf of each subgroup;~~

~~locally tracking within each member whether the group data for the~~
~~subgroup associated with such member has been transmitted;~~

~~locally determining within each member whether the member is a~~
~~subgroup leader for the subgroup with which the member is associated; and~~

~~if the member is a subgroup leader and the group data for the subgroup~~
~~associated with the member has not been transmitted, transmitting with the~~
~~member the group data on behalf of the subgroup;~~ wherein locally tracking within
each member whether the group data for the subgroup associated with such
member has been transmitted includes, for each member:

> clearing a local indicator in response to receipt of the request; and

> setting the local indicator in response to receipt of group data for

the subgroup associated with such member.

15. (Original) A method of processing a request in a clustered computer system to
organize a plurality of members into a group, the plurality of members partitioned into a
plurality of subgroups, the method comprising, for each subgroup:

> (a) determining a subgroup leader for such subgroup via a local
determination made within each active member associated with such subgroup;

> (b) determining within the subgroup leader for such subgroup whether
group data has already been transmitted on behalf of such subgroup;

> (c) if group data has not already been transmitted on behalf of such
subgroup, transmitting the group data using the subgroup leader;

> (d) performing an acknowledgment round to detect any failed members;
and

> (e) repeating the determination of the subgroup leader for such subgroup,
the determination of whether group data has already been transmitted, the

transmission of the group data if no such group data has been transmitted, and the performance of the acknowledgment round until no failed members are detected in response to a last performed acknowledgment round.

16. (Currently Amended) An apparatus, comprising:

    (a) a memory; and

    (b) a program resident in the memory, the program configured to process a request in a clustered computer system to organize a plurality of members into a group by locally determining for a local member among the plurality of members whether the local member is a subgroup leader for a subgroup with which the local member is associated, and if so, transmitting group data on behalf of the subgroup, wherein the program is further configured to detect whether the group data for the subgroup has already been transmitted by a previous subgroup leader, and wherein the program is configured to transmit the group data only if the group data has not already been transmitted.

17. (Canceled).

18. (Currently Amended) The apparatus of claim 16, An apparatus, comprising:

    (a) a memory; and

    (b) a program resident in the memory, the program configured to process a request in a clustered computer system to organize a plurality of members into a group by locally determining for a local member among the plurality of members whether the local member is a subgroup leader for a subgroup with which the local member is associated, and if so, transmitting group data on behalf of the subgroup, wherein the program is further configured to detect whether the group data for the subgroup has already been transmitted by a previous subgroup leader,

and wherein the program is configured to transmit the group data only if the group data has not already been transmitted; wherein the program is configured to detect whether the group data for the subgroup has already been transmitted by a previous subgroup leader by accessing a local indicator that indicates whether the group data for the subgroup has already been transmitted, and wherein the program is further configured to clearing the local indicator in response to receipt of the request and set the local indicator in response to receipt of group data for the subgroup.

19. (Original) The apparatus of claim 16, wherein the program is further configured to send an acknowledgment message during an acknowledgment round, wait for receipt of an acknowledgment message from each of the plurality of members, and process the group data after receipt of acknowledgment messages from each of the plurality of members.

20. (Original) The apparatus of claim 19, An apparatus, comprising:

(a) a memory; and

(b) a program resident in the memory, the program configured to process a request in a clustered computer system to organize a plurality of members into a group by locally determining for a local member among the plurality of members whether the local member is a subgroup leader for a subgroup with which the local member is associated, and if so, transmitting group data on behalf of the subgroup, wherein the program is further configured to send an acknowledgment message during an acknowledgment round, wait for receipt of an acknowledgment message from each of the plurality of members, and process the group data after receipt of acknowledgment messages from each of the plurality of members, and wherein the program is further configured to receive a message identifying a

failed member among the plurality of members, and in response to receiving the message identifying the failed member, identify the failed member, locally determine whether the local member is the subgroup leader for the subgroup subsequent to the failure of the failed member, and transmit group data on behalf of the subgroup if the group data for the subgroup has not yet been transmitted.

21. (Original) The apparatus of claim 16, wherein the program is configured to locally determine whether the local member is the subgroup leader by determining whether the local member is a lowest named member among the members associated with the subgroup.

22. (Currently Amended) A clustered computer system, comprising:

(a) a plurality of nodes coupled to one another over a network;

(b) a plurality of member jobs defining a group and configured to be executed by at least one of the plurality of nodes; and

(c) a program configured to be executed by at least one of the plurality of nodes to process a request received by a member job from the plurality of member jobs to add another member job to the group by locally determining for the member job whether the member job is a subgroup leader for a subgroup with which the member job is associated, and if so, transmitting group data on behalf of the subgroup, wherein the program is further configured to detect whether the group data for the subgroup has already been transmitted by a previous subgroup leader, and wherein the program is configured to transmit the group data only if the group data has not already been transmitted.

23. (Currently Amended) A program product, comprising:

    (a) a program configured to process a request in a clustered computer system to organize a plurality of members into a group by locally determining for a local member among the plurality of members whether the local member is a subgroup leader for a subgroup with which the local member is associated, and if so, transmitting group data on behalf of the subgroup, wherein the program is further configured to detect whether the group data for the subgroup has already been transmitted by a previous subgroup leader, and wherein the program is configured to transmit the group data only if the group data has not already been transmitted; and

    (b) a signal bearing medium bearing the program.

24. (Original) The program product of claim 23, wherein the signal bearing medium includes at least one of a recordable medium and a transmission medium.

REMARKS

This paper is submitted in reply to the final Office Action dated May 7, 2004, within the three-month period for response. Reconsideration and allowance of all pending claims are respectfully requested.

In the subject Office Action, claims 1, 4, 8-9, 11-12, 16, 19, and 21-24 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Publication No. 2003/0041138 to Kampe et al. In addition, claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kampe et al., and claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kampe et al. in view of U.S. Patent No. 6,108,699 to Moiin. The Examiner did indicate, however, that claims 2-3, 5-6, 13-15, 17-18, and 20 were directed to patentable subject matter.

Applicants respectfully traverse the Examiner's rejections to the extent that they are maintained. Nonetheless, Applicants have amended all of the claims to recite subject matter found to be allowable by the Examiner. Applicants do reserve the right to refile claims directed to the canceled subject matter in a future copending application.

In particular, independent claims 1, 12 and 16 have been amended to incorporate the subject matter of objected-to claims 2, 13 and 17, and these latter claims have been canceled without prejudice. Furthermore, claims 3, 14 and 18, which originally depended from objected-to claims 2, 13 and 17, but which were later amended to independent form in Applicants' prior response and allowed by the Examiner, have now been amended essentially back to their original form, but now depending from claims 1, 12 and 16.

In addition, claims 5 and 20, which were also indicated to be directed to allowable subject matter, have now been amended to independent form, as well as to clarify the nature of the recited received message as "identifying the failed member," which of note, is not for a reason related to patentability. Finally, independent claims 22 and 23 have been amended to incorporate the subject matter of claim 17, which was found to be allowable by the Examiner.
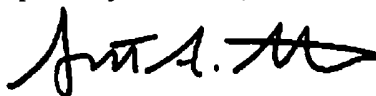
Page 11 of 12
Serial No. 09/697,398
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Reply to Office Action of May 7, 2004
IBM Docket ROC920000129US1
WH&R IBM/164
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Applicants respectfully request that the Examiner enter these amendments on the record pursuant to 37 C.F.R. 1.116(a), as the amendments do not raise any new issues, and merely incorporate subject matter previously found to be allowable over the prior art of record. Furthermore, based upon the acknowledged patentability of the subject matter of claims 2-3, 5-6, 13-15, 17-18, and 20 by the Examiner, Applicant respectfully submits that claims 1, 3-12, 14-16 and 18-24 are now in condition for allowance. Reconsideration and allowance these claims are therefore respectfully requested. If the Examiner has any questions regarding the foregoing, or which might otherwise further this case onto allowance, the Examiner may contact the undersigned at (513) 241-2324. Moreover, if any other charges or credits are necessary to complete this communication, please apply them to Deposit Account 23-3000.

Respectfully submitted,

3 JUNE 2004

Date

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